

# PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

## PCT

### NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner  
US Department of Commerce  
United States Patent and Trademark  
Office, PCT  
2011 South Clark Place Room  
CP2/5C24  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUE  
in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 30 January 2001 (30.01.01)	
<b>International application No.</b> PCT/SE00/01024	<b>Applicant's or agent's file reference</b> HeL/UB 43541
<b>International filing date</b> (day/month/year) 22 May 2000 (22.05.00)	<b>Priority date</b> (day/month/year) 21 May 1999 (21.05.99)
<b>Applicant</b> BERGGREN, Anna et al	

1. The designated Office is hereby notified of its election made:

☒

in the demand filed with the International Preliminary Examining Authority on:

08 December 2000 (08.12.00)

☐

in a notice effecting later election filed with the International Bureau on:

2. The election

☒

was

☐

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b>  R. E. Stoffel  Telephone No.: (41-22) 338.83.38
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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/01024

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A23L 2/52

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A23L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E,X	EP 1020123 A1 (SITIA-YOMO S.P.A), 19 July 2000 (19.07.00)	1-11
Y	AU 199737828 B2 (CALPIS CO., LTD. ET AL), 25 February 1998 (25.02.98)	1-11
Y	GB 2335134 A (STALPLEX LIMITED), 15 Sept 1999 (15.09.99)	1-11
Y	WO 9846091 A1 (OY ITARA HK AB), 22 October 1998 (22.10.98)	1-11

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

- \* Special categories of cited documents
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

6 October 2000

Date of mailing of the international search report

10-10-2000

Name and mailing address of the ISA/  
Swedish Patent Office  
Box 5055, S-102 42 STOCKHOLM  
Facsimile No. +46 8 666 02 86

Authorized officer

Solveig Gustavsson/Eö  
Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/01024

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 9406412 A1 (THE PROCTER & GAMBLE COMPANY), 31 March 1994 (31.03.94) --	1-11
Y	GB 1157135 A (KABUSHIKI KAISHA YAKULT HONSHA), 2 July 1969 (02.07.69) --	1-11
Y	WO 8908405 A1 (MOLIN, NILS), 21 Sept 1989 (21.09.89) --	1-11
Y	EP 0856259 A1 (SITIA-YOMO S.P.A.), 5 August 1998 (05.08.98) --	1-11
Y	EP 0916270 A2 (ENORGYBALANCE AG IN GR.), 19 May 1999 (19.05.99), claim 1 --	1-11
A	File WPI, Derwent accession no. 1997-014808, Kyosho Juan KK et al: "Prepn. of fermented soln. of lactic used as food additive - comprises adding water to rice bran and/or unpolished rice, inoculating lactic acid bacterium, contacting with gas and applying ultrasonic waves"; & JP,A,8280341 19961029 DW199702 -----	1-11

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/SE 00/01024

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
EP	1020123	A1	19/07/00	NONE	
AU	199737828	B2	25/02/98	NONE	
GB	2335134	A	15/09/99	GB 9819220 D	00/00/00
WO	9846091	A1	22/10/98	AU 2570197 A	11/11/98
WO	9406412	A1	31/03/94	AU 4855693 A	12/04/94
				CA 2143333 A	31/03/94
				CN 1089807 A	27/07/94
				EP 0587972 A	23/03/94
				JP 8501449 T	20/02/96
GB	1157135	A	02/07/69	NONE	
WO	8908405	A1	21/09/89	AT 90185 T	15/06/93
				AU 620858 B	27/02/92
				AU 3298089 A	05/10/89
				DE 68907057 D,T	20/01/94
				DK 171057 B	13/05/96
				DK 214790 A	07/09/90
				EP 0415941 A,B	13/03/91
				SE 0415941 T3	
				FI 98192 B,C	31/01/97
				FI 904425 D	00/00/00
				JP 3505520 T	05/12/91
				JP 8008846 B	31/01/96
				NO 178321 B,C	27/11/95
				SE 463796 B,C	28/01/91
				SE 8800822 A	10/09/89
				US 5190755 A	02/03/93
EP	0856259	A1	05/08/98	AT 169456 T	15/08/98
				BR 9706278 A	01/06/99
				CA 2213113 A	23/06/98
				CN 1185904 A	01/07/98
				DE 69600525 D,T	10/12/98
				JP 10286078 A	27/10/98
				US 5895648 A	20/04/99
EP	0916270	A2	19/05/99	NONE	

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REC'D 17 OCT 2001

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

WIPO

PCT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference HeL/UB 43541	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/SE00/01024	International filing date (day/month/year) 22.05.2000	Priority date (day/month/year) 21.05.1999
International Patent Classification (IPC) or national classification and IPC7 A23L 2/52		
Applicant PROBI AB et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 08.12.2000	Date of completion of this report 08.10.2001
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-100 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Solveig Gustavsson/BS Telephone No. 08-782 25 00

Form PCT/IPEA/409 (cover sheet) (January 1998)

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE00/01024

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
 pages 1-15, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages 16-17, filed with the letter of 20.08.2001
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet/fig \_\_\_\_\_

### 5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE00/01024

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: I.

Claim 11 is directed to the sports drink for use as a medicament for increasing the antioxidative capacity. This particular information does not have any clear correspondence in the description and can therefore not be allowed (an information, that the antioxidative effect is going to be investigated, can not be considered as an evidence that this effect exists).

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE00/01024

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	<u>1-10, 12-13</u>	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	<u>1-10, 12-13</u>	NO
Industrial applicability (IA)	Claims	<u>1-10, 12-13</u>	YES
	Claims		NO

### 2. Citations and explanations (Rule 70.7)

The claimed invention relates to a sports drink containing viable lactobacilli. The sports drink also contains micronutrients and conventional additives. A tablet for the preparation of a sports drink as well as the use of lactobacilli for the preparation of a sports drink is also claimed.

New restricted claims have been filed with the letter of 20 august 2001.

The new claim 1 is a combination of the previous claims 2 and 4 with an additional information about the amount of micronutrients taken from claim 9.

The new claim 11 is directed to the sports drink for use as a medicament for increasing the antioxidative capacity. This particular information does not have any clear correspondence in the description and can therefore not be allowed (an information, that the antioxidative effect is going to be investigated, can not be considered as an evidence that this effect exists).

The rest of the claims (claims 2-10 and claims 12-13) only have minor changes.

Sports, health or nutrient drinks containing micronutrient, such as vitamins and minerals and also proteins, are known from EP 916270 A2, WO 94/06412 A1, WO 98/46091 A1 and GB 2335134 A. None of the documents mentions lactobacilli.

From these documents it is also known that the drinks can be obtained from compositions in the form of a powder or a tablet.

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE00/01024

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Bov V

Beverages containing lactobacilli and nutrients, such as vitamins and minerals, are known from WO 98/08405 A1, GB 1157135 A, EP 856259 A1, AU 199737828 B2 and WPI abstract AN: 1997-014808. However, none of these beverages are said to be a sports drink. The above cited document AU 199737828 B2 also claims that the functional food containing lactobacilli has an effect on mental and physical symptoms caused by stress.

Thus, it is known to use lactobacilli in beverages, such as health and nutrient beverages and sports drinks containing micronutrients and conventional additives are also known. From reading these documents it is obvious for a man skilled in the art to use lactobacilli in sports drinks.

The applicant has not shown that the product according to the present claims have any advantageous effects compared to the known drinks containing nutrients and lactobacilli.

Thus claims 1-10 and 12-13 are considered to have novelty but to lack inventive step.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE00/01024

## VI. Certain documents cited

### 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
EP 1020123	19.07.2000	18.01.1999	--

### 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
_____	_____	_____

# CLAIMS

1. A sports drink comprising micronutrients in combination with conventional additives for sport drinks, characterized in containing 1-2 g of micronutrients selected from the group consisting of ascorbic acid, vitamin E,  $\beta$ -carotene, pyridoxine, thiamine, riboflavin, niacin, cobalamin, folacin, Q10, copper, magnesium, manganese, selenium, zinc and chromium, per 1000 g in combination with viable lactobacilli having a positive effect on human intestinal mucosa.

2. A sports drink according to claim 1, characterised in containing one or several strains of *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus fermentum*, *Lactobacillus paracasei*, *Lactobacillus plantarum*, *Lactobacillus reuteri*, *Lactobacillus rhamnosus* having the ability to colonise in the intestines, in a therapeutically effective amount.

3. A sports drink according to claim 1 or 2, characterized in containing the micronutrients vitamin C, vitamin E, and selenium.

4. A sports drink according to any of claims 1-3, characterized in containing the micronutrients ascorbic acid, vitamin E,  $\beta$ -carotene, pyridoxine, copper, magnesium, manganese, selenium, and zinc.

5. A sports drink according to any of claims 1-4, characterised in containing per 1000 g

ascorbic acid	500-1200 mg
vitamin E	250-375 mg
$\beta$ -carotene	15-25 mg
pyridoxine	15-25 mg
sodium	20-60 mg
potassium	60-100 mg
copper	0.5-1.5 mg
magnesium	120-175 mg
manganese	1-3 mg
selenium	0.05-0.15 mg
zinc	5-15 mg

6. A sports drink according to any of claims 1-5, which comprises proteins, optionally in combination with amino acids.

7. A sports drink according to claim 6, wherein the protein is a whey protein or whey protein hydrolysate.

8. A sports drink according to any of claims 1-7, which comprises carbohydrates having a low glycemic index, optionally in combination with carbohydrates of a high glycemic index.

9. A sports drink according to any of claims 1-8, characterised in containing per 1000 g

whey proteins	15-60 g
carbohydrates	40-150 g
micronutrients	1-2 g
a probiotic strain of	
<i>Lactobacillus plantarum</i>	$5 \cdot 10^7$ - $5 \cdot 10^8$ cfu/ml

10. A sports drink according to any of claims 1-9, characterised in containing *Lactobacillus plantarum* 299v (DSM 9843).

11. A sports drink according to any of claims 1-10 for use as a medicament for increasing the antioxidative capacity.

12. Tablet for the preparation of a sports drink according to any of claims 1-10 in vivo or in vitro, characterised in that it comprises micronutrients in combination with freeze-dried, viable lactobacilli.

13. Use of lactobacilli for the preparation of a sports drink according to any of claims 1-10 to prevent and treat stress symptoms, gastrointestinal disturbances, and lesions of the mucous membrane of the intestines.